



## **DEPARTMENT OF THE INTERIOR**

### **Fish and Wildlife Service**

#### **50 CFR Part 17**

**[Docket No. FWS–R8–ES–2013–0034]**

**[4500030114]**

### **Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List Two Populations of Black-Backed Woodpecker as Endangered or Threatened**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of petition finding and initiation of status review.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the Oregon Cascades-California population and Black Hills population of the black-backed woodpecker (*Picoides arcticus*) under the Endangered Species Act of 1973, as amended (Act), as subspecies or distinct population segments (DPSs) that are endangered or threatened, and to designate critical habitat concurrent with listing. Based on our review, we find that the petition presents substantial scientific

or commercial information indicating that listing the Oregon Cascades-California and Black Hills populations of the black-backed woodpecker as subspecies or DPSs may be warranted. Therefore, with the publication of this notice, we are notifying the public that, when funds become available, we will be initiating a review of the status of the two populations to determine if listing either or both the Oregon Cascades-California population and the Black Hills population as either subspecies or DPSs is warranted. To ensure that this status review is comprehensive, we are requesting scientific and commercial data and other information regarding these two populations. Based on the status review, we will issue a 12-month finding on the petition, which will address whether the petitioned action is warranted, as provided in section 4(b)(3)(B) of the Act.

**DATES:** We request that we receive information on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. The deadline for submitting an electronic comment using the Federal eRulemaking Portal (see **ADDRESSES** section, below) is 11:59 p.m. Eastern Time on this date. After [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER], you must submit information directly to the Division of Policy and Directives Management (see **ADDRESSES** section, below). Please note that we might not be able to address or incorporate information that we receive after the above requested date.

**ADDRESSES:** You may submit information by one of the following methods:

- (1) *Electronically:* Go to the Federal eRulemaking Portal:

*http://www.regulations.gov*. Search for Docket No. FWS–R8–ES–2013–0034, which is the docket number for this action. Then click on the Search button. You may submit information for consideration in our status review by clicking on “Comment Now!”

(2) *By hard copy*: Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R8–ES–2013–0034; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We will not accept emails or faxes. We will post all information we receive on *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see the **Request for Information** section below for more details).

**FOR FURTHER INFORMATION CONTACT:** Karen Leyse, Listing Coordinator, U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W-2605, Sacramento, CA 95825; by telephone at 916–414–6600; or by facsimile at 916–414–6712. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800–877–8339.

#### **SUPPLEMENTARY INFORMATION:**

#### **Request for Information**

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to initiate review of the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on the Oregon Cascades-California population and the Black Hills population of the black-backed woodpecker from governmental agencies, Native American tribes, the scientific community, industry, and any other interested parties. We seek information on:

(1) The species' biology, range, and population trends, including:

(a) Habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy of the Oregon Cascades-California and the Black Hills populations of the black-backed woodpecker, including information that would pertain to whether either, or both, populations can be listed under the Act (16 U.S.C 1531 *et seq.*) as either subspecies or DPSs;

(c) Historical and current range including distribution patterns, and presence or absence of physical, physiological, or behavioral barriers to movement between populations;

(d) Historical and current population levels, and current and projected trends;

and

(e) Past and ongoing conservation measures for the species, its habitat, or both.

(2) The factors that are the basis for making a listing determination for a species under section 4(a) of the Act, which are:

(a) The present or threatened destruction, modification, or curtailment of its

habitat or range;

(b) Overutilization for commercial, recreational, scientific, or educational purposes;

(c) Disease or predation;

(d) The inadequacy of existing regulatory mechanisms; or

(e) Other natural or manmade factors affecting its continued existence.

If, after the status review, we determine that listing either an Oregon Cascades-California population or a Black Hills population of the black-backed woodpecker is warranted, we will propose critical habitat (see definition in section 3(5)(A) of the Act) under section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, we also request data and information on:

(1) What may constitute “physical or biological features essential to the conservation of the species,” within the geographical range currently occupied by the species;

(2) Where these features are currently found;

(3) Whether any of these features may require special management considerations or protection;

(4) Any areas outside the geographical area occupied by the species that are “essential for the conservation of the species” and why; and

(5) What, if any, critical habitat you think we should propose for designation if the species is proposed for listing, and why such habitat meets the requirements of section 4 of the Act.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or threatened species must be made “solely on the basis of the best scientific and commercial data available.”

You may submit your information concerning this status review by one of the methods listed in the **ADDRESSES** section. If you submit information via <http://www.regulations.gov>, your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this personal identifying information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on <http://www.regulations.gov>.

Information and supporting documentation that we received and used in preparing this finding is available for you to review at <http://www.regulations.gov>, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service,

Sacramento Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

## **Background**

Section 4(b)(3)(A) of the Act requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of the finding promptly in the **Federal Register**.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90-day petition finding is “that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted” (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly initiate a species status review, which we subsequently summarize in our 12-month finding.

## *Petition History*

On May 8, 2012, we received a petition dated May 2, 2012, from the John Muir Project of the Earth Island Institute, the Center for Biological Diversity, the Blue Mountains Biodiversity Project, and the Biodiversity Conservation Alliance (EII *et al.* 2012, pp. 1–16) (petitioners), requesting that the Oregon Cascades-California population and the Black Hills population of the black-backed woodpecker each be listed as an endangered or threatened subspecies, and that critical habitat be designated concurrent with listing under the Act. The petition also requested that, should we not recognize either population as subspecies, we consider listing each population as an endangered or threatened distinct population segment (DPS). The petition clearly identified itself as such and included the requisite identification information for the petitioners, required at 50 CFR 424.14(a). In a June 29, 2012, letter to the John Muir Project of the Earth Island Institute, we responded that our initial review of the information presented in the petition did not indicate that an emergency regulation temporarily listing the species under section 4(b)(7) of the Act was warranted. We also stated that we were required to complete a significant number of listing and critical habitat actions pursuant to court orders, judicially approved settlement agreements, and other statutory deadlines, in Fiscal Year 2012, but that we secured funding for Fiscal Year 2012 to allow us to initiate our response to the petition in Fiscal Year 2012. In addition, we stated that we anticipated making an initial finding in Fiscal Year 2013 as to whether the petition contains substantial information indicating that the petitioned action may be warranted. This finding addresses the petition.

#### *Previous Federal Actions*



There are no previous Federal actions involving the black-backed woodpecker, or any subspecies or populations of black-backed woodpecker.

### *Species Information*

The black-backed woodpecker is similar in size to the more common American robin (*Turdus migratorius*) and is heavily barred with black and white sides. Its flanks have nearly solid black upper parts, and it has a white throat (Dawson 1923, pp. 1007–1008). Males and young have a yellow crown patch, while the female crown is entirely black. Its sooty-black dorsal plumage camouflages it against the black, charred bark of the burned trees upon which it preferentially forages (Murphy and Lehnhausen 1998, p. 1366; Dixon and Saab 2000, p. 1). The black-backed woodpecker has only three toes on each foot instead of the usual four. This is one of several adaptations, including skull modifications, that makes it among the most specialized of birds for delivering hard blows to dig out wood-boring insect larvae, although at the expense of reducing their tree-climbing ability (Bock and Bock 1974, p. 397; Goggans *et al.* 1989, p. 2).

### Diet and Foraging

Black-backed woodpeckers have a narrow diet, consisting mainly of larvae of wood-boring beetles and bark beetles (Cerambycidae, Buprestidae, and Scolytidae) (Goggans *et al.* 1989, pp. 20, 34; Villard and Beninger 1993, p. 73; Murphy and

Lehnhausen 1998, pp. 1366–1367; Powell 2000, p. 31; Dudley and Saab 2007, p. 593), which are available following large-scale disturbances, especially high-severity fire (Nappi and Drapeau 2009, p. 1382). In burned forests, black-backed woodpeckers feed primarily on wood-boring beetle larvae (Villard and Beninger 1993, p. 73; Murphy and Lehnhausen 1998, pp. 1366–1368; Powell 2000, p. 31). Most wood-boring beetles are unable to attack living trees, and concentrate heavily in fire-killed wood (reviewed in Powell 2000, p. 78), although they also are found in other recently killed trees (Bull *et al.* 1986, p. 13; Bonnot *et al.* 2009, pp. 220–225). Wood-boring beetles lay eggs soon after disturbance; larvae live inside the sapwood and emerge as adults approximately 4 years later. Wood-boring beetles are an efficient food source for the woodpecker because, where habitat is appropriate, they are abundant in small areas and can be exploited with hard blows, but little climbing (Goggins *et al.* 1989, p. 2; Nappi and Drapeau 2009, p. 1387). The black-backed woodpecker consumes bark beetle larvae from trees during beetle infestations (Goggins *et al.* 1989, pp. 20, 34; Powell 2000, pp. 77–79). Utilization of live or dead trees for foraging may differ, depending on site or disturbance type. In a bark-beetle infestation in Oregon, Bull *et al.* (1986, p. 13) found that black-backed woodpeckers used live and dead trees for foraging in approximately equal proportions. In the Sierra Nevada Range, black-backed woodpeckers have been found to forage preferentially on large trunks of snags in burned forests (Hanson and North 2008, p. 780). Although they forage on several species of live trees, they use snags (dead trees) more than expected based on snag availability (Raphael and White 1984, pp. 33–36).

## Breeding

The black-backed woodpecker is a cavity-nesting bird. It nests in late spring, with nest excavation generally occurring from April to June, depending on location and year. Clutch size averages three to four eggs. Both parents incubate the eggs and brood the young; adults collect insect prey for the young within several hundred meters of the nest. The black-backed woodpecker nests in live and dead trees of various species (including Douglas-fir (*Pseudotsuga menziesii*), lodgepole pine (*Pinus contorta*), ponderosa pine (*Pinus ponderosa*), red fir (*Abies magnifica*), and quaking aspen (*Populus tremuloides*)), depending upon local forest type and condition (see review in Dixon and Saab 2000, pp. 11–14). Bull *et al.* (1986, p. 9) conclude that the black-backed woodpecker prefers to nest in dead pines because pines have a thicker layer of sapwood, which decays more quickly than heartwood and thus should be more suitable for excavation. They also conclude that trees less than 50 centimeters (cm) (20 inches (in)) diameter at breast height are preferred because they contain a higher percentage of sapwood than do larger trees. In the Sierra Nevada Range, nests are found primarily in dead trees and secondarily nests are found in the dead portions of live trees (Raphael and White 1984, p. 19). Black-backed woodpeckers select nest sites in stands where tree densities are greater than average (Vierling *et al.* 2008, pp. 423–425), and select, unlogged burned forests over logged, burned forests for nesting (Saab *et al.* 2007, pp. 100–101, 103). Nest sites in burned forests are positively correlated with areas of high pre-fire canopy cover and high wood-boring insect abundance (Raphael and White 1984, pp. 55–57; Russell *et al.* 2007, p. 2603–2604; Bonnot *et al.* 2009, pp. 225–227).

## Range

The black-backed woodpecker occurs across dense, closed-canopy boreal and montane coniferous forests of North America (Winkler *et al.* 1995, p. 296; Dixon and Saab 2000, p. 4). They are resident from western Alaska to northern Saskatchewan and central Labrador, south to southeastern British Columbia, central northwestern Wyoming, southwestern South Dakota, central Saskatchewan, northern Minnesota, southeastern Ontario, and northern New England (Dixon and Saab 2000, pp. 2–3; NatureServe 2008, pp. 5–6). In the Rocky Mountains and to the east, the species reaches its southernmost distribution in northwest Wyoming and the Black Hills, and is apparently absent from the central and southern Rocky Mountains, where the pine forests may be too poorly developed to attract the species (Bock and Bock 1974, p. 397; Dixon and Saab 2000, pp. 2–3).

In Washington State, the black-backed woodpecker occurs mainly on the eastern side of the Cascade Range and in the Blue Mountains (Dixon and Saab 2000, p. 2), although range maps also place them in the Rocky Mountains where the range transects the northeastern portion of the State (NatureServe 2008). In Oregon, the species is found mainly on the eastern side of the Cascade Range, throughout the Blue Mountains and Wallowa Mountains in northeastern Oregon, and the Siskiyou Mountains in southwestern Oregon. From Oregon, the range continues south into California along the higher elevation eastern slopes of the Cascade and Sierra Mountains to eastern Tulare

County; the California range also extends west through the Siskiyou and Klamath Mountains and east to the Warner Mountains (Dawson 1923, p. 1007; Grinnell and Miller 1944, p. 248; Dixon and Saab 2000, p. 2).

The black-backed woodpecker's breeding range generally corresponds with the location of boreal and montane coniferous forests throughout its range. East of the Rocky Mountains, the species breeds south to central Alberta, Saskatchewan, and Manitoba to the northern portions of Minnesota, Wisconsin, and Michigan (Dixon and Saab 2000, p. 2). In Oregon, the breeding range predominantly occurs in montane lodgepole pine and lodgepole pine-dominated mixed-conifer forest, but also includes burned and unburned ponderosa pine forest (Dixon and Saab 2000, p. 4). The breeding habitat of the black-backed woodpecker in the Black Hills is predominantly ponderosa pine forest (Vierling *et al.* 2008, p. 422).

The black-backed woodpecker is mainly sedentary (does not leave the range where resident) during the winter and does not have a regular latitudinal migration. However, the species is subject to periodic irruptions southward from the boreal forest into southern Ontario and the northern United States (from Minnesota to New England) during the fall and winter months. These irruptions can vary in magnitude from a few wandering birds to very irregular irruptions involving large numbers of individual birds. During winter irruptions, birds move to areas south of the eastern boreal breeding range to opportunistically forage on outbreaks of wood-boring beetles. Winter records have occurred south to midwestern States, Pennsylvania, and New Jersey (Dixon and Saab

2000, pp. 2–4), with some individuals remaining in the southern locations for up to 193 days (Yunick 1985, p. 139; Winkler *et al.* 1995, p. 296; Dixon and Saab 2000, pp. 3–4). Such irruptions demonstrate the species' ability to move long distances over unforested habitats. In the Sierra Nevada Range, some sources suggest that black-backed woodpeckers may move downslope in winter (Siegel *et al.* 2010, p. 7).

## Habitat

At the landscape scale, while not tied to any particular tree species, the black-backed woodpecker generally is found in older conifer forests comprised of high densities of larger snags (Bock and Bock 1973, p. 400; Russell *et al.* 2007, p. 2604; Nappi and Drapeau 2009, p. 1388; Siegel *et al.* 2012, pp. 34–42). The species is closely associated with standing dead timber that contains an abundance of snags (Dixon and Saab 2000, pp. 1–7, 15). Black-backed woodpeckers appear to be most abundant in stands of trees recently killed by fire (Hutto 1995, pp. 1047, 1050; Smucker *et al.* 2005, pp. 1540–1543) and in areas where beetle infestations have resulted in high tree mortality (Bonnot *et al.* 2009, p. 220). In the western United States, black-backed woodpeckers show a strong association with burned forest conditions (Siegel *et al.* 2010, p. 8; Hutto 2008, p. 1831); in the northern Rockies, they are 16 times more likely to be found in burned forest than in the next most commonly occupied vegetation type (Hutto 2008, p. 1831). Suitable habitat is thus unpredictable and ephemeral, and may remain suitable for only 6 to 10 years, and often less following disturbance, depending upon local conditions (Murphy and Lehnhausen 1998, pp. 1368–1369; Hoyt and Hannon

2002, pp. 1886–1887; Saab *et al.* 2004, pp. 28, 34; Saab *et al.* 2007, p. 99; Hutto 2008, p. 1831). Recently killed trees only support wood-boring beetles and bark beetles for several years before numbers of beetle larvae begin to steeply decline (Dixon and Saab 2000, p. 6), although the length of time that an area remains suitable after a fire varies in a site-specific way, depending on the size, intensity, and landscape patterns of the fire (Saab *et al.* 2004, pp. 28–34; Saab *et al.* 2007, p. 106). Some studies suggest that optimal habitat for the species appears to be mature and old forest (with high pre-fire canopy cover and high densities of trees of all sizes) that has burned at a high intensity within the previous 1 to 4 years (Dixon and Saab 2000, pp. 4–7; Siegel *et al.* 2010, pp. 10–46; EII *et al.* 2012, p. 99). Hutto (1995, p. 1050) has proposed that the black-backed woodpecker is basically restricted to early post-fire coniferous forests, noting that although it is possible that populations of the species are maintained by low numbers of birds that persist in unburned forests, it is equally likely that their populations are maintained by a patchwork of recently burned forests.

## Taxonomy

The black-backed woodpecker is in the order Piciformes, family Picidae, and subfamily Picinae (DeSante and Pyle 1986, p. 219), and is also known as the Arctic three-toed woodpecker and the black-backed three-toed woodpecker. First described by Swainson and Richardson in 1832 (American Ornithologists' Union (AOU) 1983, p. 392), the black-backed woodpecker probably evolved in North America from an ancestor in common with the three-toed woodpecker, *Picoides tridactylus* (Bock and

Bock 1974, pp. 402–403). The scientific community recognizes the black-backed woodpecker as a species (AOU 1983, pp. 392–393), and no subspecies of the black-backed woodpecker were included at the time that AOU last published subspecies names in 1957 (AOU 1957, p. 330), although earlier literature does contain limited references to different taxonomy. Dixon and Saab (2000, p. 3) have reported that in 1900, Bangs described a more slender-billed form (*tenuirostris*) in the Cascades and the Sierra Nevada. In their *Distribution of the Birds of California*, Grinnell and Miller (1944, p. 248) note the names black-backed three-toed woodpecker and Sierra three-toed woodpecker (*Picoides arcticus tenuirostris* and *Picoides tenuirostris*) as synonyms for the species, but do not provide additional information on taxonomy. They describe the species' range as being of small extent and interrupted nature, chiefly in the Cascade Mountains and the high northern and central Sierra Nevada Range.

The petition (EII *et al.* 2012, pp. 12–15) included as supporting information a recent genetic study (Pierson *et al.* 2010) that identifies three distinct genetic groupings of the black-backed woodpecker: A large, genetically continuous population that spans the northern continuous forest (boreal forest) from the northern Rocky Mountains and Alberta, Canada, to Quebec (“boreal” population hereafter); a small and isolated population in the Black Hills of southwestern South Dakota and northeastern Wyoming; and a population in the Cascade Range of Oregon (Pierson *et al.* 2010, pp. 1, 3, 6–13). The Washington Cascades are mapped as part of the boreal population (Pierson *et al.* 2010, pp. 3, 8; see also NatureServe 2008, p. 5). The petitioners have relied on the Pierson *et al.* (2010) study results to propose that this new information may warrant a



revised interpretation of the taxonomic description of the species (EII *et al.* 2012, pp. 13–16). The findings by Pierson *et al.* (2010, entire) are discussed in the “Evaluation of Listable Entities” section below.

### Population Status and Trend

No systematic, long-term, rangewide surveys have been conducted for the black-backed woodpecker. However, despite its widespread breeding distribution, the black-backed woodpecker is considered locally rare (Dixon and Saab 2000, p. 1), with low densities and large home ranges (Dudley and Saab 2007, p. 593). Some indication of population trend is based on anecdotal observations that indicate the species was at least locally “common” over 100 years ago (Cooper 1870, p. 385), but is considered “rare” by more current sources (Dixon and Saab 2000, p. 1; EII *et al.* 2012, pp. 38–39, 41). However, despite its rarity, the information provided by the petitioners does not indicate a clear decrease in the species’ current range compared to its historical range, although patterns of genetic structure may suggest some changes within the range of the species over time (Pierson *et al.* 2010, pp. 10, 12). References provided by the petitioners also suggest that intensive human impacts to habitat within the species’ range may have reduced suitable habitat within the mountain ranges of the Oregon Cascades-California and Black Hills populations (Shinneman and Baker 1997, pp. 1278–1286; Vierling *et al.* 2008, pp. 422, 423; Cahall and Hayes 2009, p. 1127). In the Black Hills, for example, nearly every acre is reported to have been logged or thinned at least twice since the late

1800s, with widespread logging and human-caused fires having occurred in the Black Hills by 1891 (Shinneman and Baker 1997, pp. 1278–1279).

Black-backed woodpeckers are opportunistic in response to changes in forest structure and composition that are created by fire and insect outbreaks, and that provide the specialized food and nesting resources utilized by the species (Dixon and Saab 2000, p. 15). Thus, black-backed woodpecker populations are subject to significant fluctuations. Their numbers may be low in unburned or undisturbed forests, but increase rapidly following fire or other disturbance, in response to increased populations of wood-boring beetles and bark beetles (Dixon and Saab 2000, p. 15). Abundance of black-backed woodpeckers is thus thought to be strongly influenced by the extent of fires and insect outbreaks (Dixon and Saab 2000, p. 15).

In the Sierra Nevada Range, two large-scale, annual bird monitoring programs, the Breeding Bird Survey and the Monitoring Avian Productivity and Survivorship Program, have detected black-backed woodpeckers throughout the region in small numbers, but data are too sparse for estimating regional populations (see Siegel *et al.* 2008, p. 4). Siegel *et al.* (2010, pp. 1–3, 44–45) have found that black-backed woodpeckers are relatively rare, yet widely distributed over the 10 national forests in the Sierra Nevada. In their study of 51 fire areas between 1 and 10 years after fire occurred on the 10 national forests, they used survey results combined with modeling to estimate that approximately 81,814 ha (202,167 ac) of the 323,358 ha (799,035 ac) of burned forest were occupied by the woodpecker, and found that results indicating that the

species is most common within a few years after high-severity fire were in general agreement with published studies from elsewhere within the species' range. They provide preliminary estimates that this occupied habitat could contain 470, 538, or 1,341 pairs, based on varying home-range size estimates reported elsewhere within the species' range, but they caution that estimates are not reliable until home range sizes are determined for the Sierras.

In the Black Hills, the black-backed woodpecker population is thought to be quite small. Bonnot *et al.* (2008, p. 450) report that the South Dakota Department of Game, Fish, and Parks lists the species as locally rare and vulnerable to extinction. A baseline population study in 2000 estimated approximately 1,200 black-backed woodpeckers in the Black Hills at that time (USDA 2005a, p. III-241). Small population size is supported by the findings of Pierson *et al.* (2010, p. 12) that the population has a small genetically effective population size.

### **Evaluation of Listable Entities**

Under section 3(16) of the Act, we may consider for listing any species, including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature (16 U.S.C. 1532(16)). Such entities are considered eligible for listing under the Act (and, therefore, are referred to as listable entities) if we determine that they meet the definition of an endangered or threatened species. The petitioners have requested that the Oregon

Cascades-California population and the Black Hills population of the black-backed woodpecker each be listed under the Act as either a subspecies or as a distinct population segment.

*Evaluation of Information Provided in the Petition and Available in our Files Regarding Subspecies Status for the Oregon Cascades-California and Black Hills Populations*

The petitioners have requested that we consider each population as a separate subspecies based on the results of Pierson *et al.* (2010, p. 11) indicating that genetic samples from black-backed woodpeckers in the Oregon Cascades and in the Black Hills display a degree of genetic differentiation from the boreal population, and from each other, that is similar to the genetic differentiation found between subspecies or clades of other birds occupying similar ranges. Additionally, Pierson *et al.* (2010, p. 10) suggested low genetic diversity patterns within the Oregon Cascades and Black Hills populations indicate that each population has a shared ancestry with the boreal population, without much current gene flow. According to Pierson *et al.* (2010, pp. 2, 3), the eastern Cascade Range of Oregon and the Sierra Nevada Range of California are geographically separated from the remainder of the species' range, but not from each other, suggesting that further resolution of populations in California, Oregon, and Washington is needed. Pierson *et al.* (2010), however, did not propose subspecies status for any populations.

The AOU, the recognized authority for taxonomy of North American birds, has

not listed subspecies since 1957, stating space limitations, and also noting that the validity (in the sense of their distinguishability) of many described avian subspecies still needs to be evaluated, as does the potential for unrecognized subspecies (AOU 1983, p. 284; AOU 1998, pp. 1–19). The 1957 AOU checklist did not list subspecies of black-backed woodpecker (p. 330), and neither the Oregon Cascades-California nor the Black Hills population of the black-backed woodpecker has since been proposed or recognized as a subspecies. Given the recent genetic information published by Pierson *et al.* (2010, p. 11), the information available to us at this stage is not clear as to whether these populations may qualify as subspecies. We request further information should it become available, and will revisit this question when conducting our status review.

*Evaluation of Information Provided in the Petition and Available in our Files Regarding Distinct Population Segment Status for the Oregon Cascades-California and Black Hills Populations*

In determining whether an entity constitutes a DPS, and is therefore a listable entity under the Act, we follow the *Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act* (DPS Policy) (61 FR 4722; February 7, 1996). Under our DPS Policy, we analyze three elements prior to making a decision to establish and classify a possible DPS: (1) The discreteness of the population segment in relation to the remainder of the taxon; (2) the significance of the population segment to the taxon to which it belongs; and (3) the population segment's conservation status in relation to the Act's standards for listing (i.e., is the population

segment, when treated as if it were a species, endangered or threatened?) (61 FR 4722).

This finding considers whether the petitioned Oregon Cascades-California population or the Black Hills population of the black-backed woodpecker may be considered a DPS under our 1996 DPS policy.

Under our DPS Policy, a population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions: (1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or (2) It is delimited by international governmental boundaries within which significant differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist (61 FR 4722).

If a population segment is considered discrete under either of the conditions described in our DPS policy, we then consider its biological and ecological significance to the taxon to which it belongs. This consideration may include, but is not limited to, the following: (1) Persistence of the discrete population segment in an ecological setting that is unusual or unique for the taxon; (2) Evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon; (3) Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range; or (4) Evidence that the discrete population segment differs markedly from other

populations of the species in its genetic characteristics (61 FR 4722).

#### Oregon Cascades-California Population

*Discreteness*—The petitioners provide recent genetic information (Pierson *et al.* 2010, pp. 1–16) to support their presentation of the Oregon Cascades-California population as markedly separated, or discrete, from the boreal and Black Hills populations of the black-backed woodpecker. They rely on the conclusions of Pierson *et al.* 2010 (pp. 10–13) that genetic results indicate that large gaps among forested sites apparently act as behavioral barriers to movement of females, and create a higher resistance to movement for males. Pierson *et al.* (2010, pp. 6–11) conclude that the geographic locations of sharp discontinuities in gene flow match breaks in the large forested areas between the Rocky Mountains and Oregon, and also conclude that a barrier likely exists between Oregon and the boreal forest to the north. However, they further note that, for conservation planning purposes, it will be important to determine if the Oregon population is connected to the California or Washington populations (Pierson *et al.* 2010, pp. 11, 13). The authors note that irruptions indicate that the species is physiologically capable of long-distance movements, but also note that because the irruptions occurred almost exclusively outside of the breeding season, they do not represent natal or breeding dispersal. The petitioners did not present, nor do we have, additional information on the genetics of black-backed woodpecker populations that would provide additional evidence of marked separation of the Oregon Cascades-California population.

Various materials provided by the petitioners indicate gaps in forested habitat may support a potential behavioral or geographic separation between the eastern Oregon Cascades and the Washington populations (Winkler *et al.* 1996, p. 296; Pierson *et al.* 2010, p. 3; EII *et al.* 2012, p. 17). Ecotype and forest mapping (USDA 2008, pp. 4, 5) indicate that between the eastern Oregon Cascade Range and the Blue and Wallowa Mountains of northeastern Oregon, there may be gaps in dense, montane forest cover, which is the type of habitat in which the species typically occurs. Range maps provided by the petitioners show differing degrees of continuity in the species' range in Washington and Oregon, with more recent maps showing discontinuity in the species' range between the Washington and Oregon Cascades, where the Columbia Basin bisects the mountain range, and also between the Oregon Cascades and the Blue and Wallowa Mountains in the northeastern portion of the State (Bock and Bock 1974, p. 399; Winkler *et al.* 1995, p. 296; Dixon and Saab 2000, p. 1; National Geographic Society 2008, unpaginated; NatureServe 2009, unpaginated). These range maps show the distribution of the black-backed woodpecker in the Oregon Cascades as continuous with the species' range in California (Winkler *et al.* 1995, p. 296; Dixon and Saab 2000, p. 1; National Geographic Society 2008, unpaginated; NatureServe 2009, unpaginated).

In consideration of the information the petitioners presented indicating continuity of the Oregon Cascades and California portions of the species' range, and in the absence of contradictory information, we are including black-backed woodpeckers throughout their California range along with black-backed woodpeckers throughout their range in



the Cascade Range of Oregon as one potential DPS. We conclude that the petitioners have presented substantial information to indicate that black-backed woodpecker population segment in the Oregon Cascades and California may be markedly separated from other populations of the species, due to a combination of physical and ecological factors. Genetic data are presented as quantitative evidence of this separation.

*Significance*—The petitioners state that the Oregon Cascades-California population meets two of the DPS significance criteria because (1) loss of the population would result in a significant gap in the range of the species, specifically at the periphery of the range of the black-backed woodpecker; and (2) the population differs markedly from other populations of the species in its genetic characteristics (EII *et al.* 2012, pp.14–16). The petitioners rely on Service documents (71 FR 56228, 56233; September 26, 2006; and 76 FR 63720, 63732; October 13, 2011), and the references cited therein, to note that there are several reasons why populations at the edge of a species' range may be important, and why a gap in the range would be significant: Peripheral populations maintain opportunities for speciation and future biodiversity, which allow adaptation to future environmental changes; they may represent refugia for a species as the species' range is reduced; and genetically divergent peripheral populations are often disproportionately important to the species in terms of maintaining genetic diversity and, therefore, the capacity for evolutionary adaptation (EII *et al.* 2012, p. 15).

Based on a review of the information in the petition and available in our files, the petitioners have presented substantial information to indicate that loss of the Oregon

Cascades-California population may result in a significant gap in the range of the species. Loss of the population would result in the loss of that portion of the range west of the Rocky Mountain corridor and south of the Columbia River (the southwestern-most extent of the range), including the Sierra Nevada Range south to Tulare County, the southern-most portion of the species' entire range. Additionally, the petitioners cited genetic analyses by Pierson *et al.* (2010, pp. 1–16) that provide evidence that the Oregon Cascades-California population may differ markedly from other populations of the species in its genetic characteristics.

#### Black Hills Population

*Discreteness*—As with the Oregon Cascades-California population, the petitioners provide information that the Black Hills population is genetically distinct from other sampled black-backed woodpecker populations, relying on the recent genetic information in Pierson *et al.* (2010, pp. 1–16) to support their statement that the Black Hills population is markedly separated, or discrete, from the boreal and Oregon Cascades-California populations because large gaps between forested sites act as behavioral barriers to birds' movements (Pierson *et al.* 2010, pp. 10–13). Pierson *et al.* (2010, p. 11) conclude that, because the black-backed woodpecker's distribution closely follows the distribution of the boreal forest, gaps in forested habitat are likely to be the ultimate cause of the limited gene flow between geographic regions.

The petitioners state that the Black Hills population also meets the discreteness criterion based on geographic separation as a result of the large gap in forested habitat between the Black Hills and the nearest boreal population (Pierson *et al.* 2010, p. 3) (EII *et al.* 2012, pp. 14–16). Range maps consistently show the Black Hills as clearly separated from the boreal and northern Rocky Mountain portions of the range (Bock and Bock 1974, p. 399; Winkler *et al.* 1995, p. 296; Dixon and Saab 2000, p. 1; National Geographic Society 2008, unpaginated; NatureServe 2009, unpaginated). The Black Hills population is separated from the main range by approximately 200 miles (USDA 2005a, p. III-238). The Black Hills are an isolated, forested mountain range located within the Great Plains in western South Dakota and northeastern Wyoming (Shinneman and Baker 1997, p. 1278; Vierling *et al.* 2008, pp. 422, 425). The Black Hills portion of the black-backed woodpecker's range covers a relatively small area of approximately 15,500 square kilometers (5,984 square miles) (Pierson *et al.* 2010, p. 12). Thus, the petitioners have presented substantial information to indicate that the Black Hills population may be markedly separated from the other populations of the species, due to a combination of physical and ecological factors. Genetic data are presented to provide quantitative evidence of this separation.

*Significance*—The petitioners state that loss of the Black Hills population would be considered a significant gap at the periphery of the species' range (EII *et al.* 2012, pp. 14–16). The petitioners present information to indicate that loss of this population, which would occur at the southern edge of the center of its range, would result in the loss of a disjunct population that is located within the Great Plains. In addition, the

Black Hills population may differ markedly from other sampled populations of the species in its genetic characteristics (Pierson *et al.* 2010, pp. 3–10). Consequently, the petitioners have provided substantial information to indicate that the Black Hills population may meet the significance element of the 1996 DPS policy.

*Listable Entity Determination for the Oregon Cascades-California and Black Hills Populations*

Based on current knowledge from genetic studies and distribution information presented in the petition and readily available in our files, we determine that the petitioners have presented substantial information indicating that the Oregon Cascades-California population of black-backed woodpecker and the Black Hills population of black-backed woodpecker may be listable entities under the Act either as subspecies or as DPSs.

We base the DPS findings on information indicating the Oregon Cascades-California and the Black Hills populations may meet both the discreteness and significance elements of the Service's 1996 DPS policy. The populations may meet the discreteness element of the DPS policy because information indicates that each population segment may be markedly separated from each other and from the boreal black-backed woodpecker population as a consequence of physical and ecological factors, and as indicated by genetic differences between black-backed woodpeckers in the Oregon Cascades, Black Hills, and boreal populations. The populations may meet

the significance element of the DPS policy because loss of each population may result in a significant gap in the range of the black-backed woodpecker, and because each population segment may differ markedly from other populations of black-backed woodpeckers in its genetic characteristics.

We will further evaluate the weight of evidence available to support subspecies or DPS status for the Oregon Cascades-California and the Black Hills populations during the status review.

### **Evaluation of Information for this Finding**

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations at 50 CFR 424 set forth the procedures for adding a species to, or removing a species from, the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act:

- (A) The present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) Overutilization for commercial, recreational, scientific, or educational purposes;
- (C) Disease or predation;
- (D) The inadequacy of existing regulatory mechanisms; or
- (E) Other natural or manmade factors affecting its continued existence.

In considering what factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat and we then attempt to determine how significant a threat it is. If the threat is significant, it may drive or contribute to the risk of extinction of the species such that the species may warrant listing as endangered or threatened as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely impacted could suffice. The mere identification of factors that could impact a species negatively may not be sufficient to compel a finding that listing may be warranted. The information shall contain evidence sufficient to suggest that these factors may be operative threats that act on the species to the point that the species may meet the definition of endangered or threatened under the Act.

In making this 90-day finding, we evaluated whether information regarding threats to either the Oregon Cascades-California population or the Black Hills population of the black-backed woodpecker, as presented in the petition and other information available in our files, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below.

*A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range.*

Information Provided in the Petition

The petitioners state that black-backed woodpecker habitat is directly eliminated, and indirectly reduced or degraded, by management actions that are widely conducted on public and private forests throughout the range of the species. They specify that habitat is systematically lost through post-disturbance salvage logging, active fire suppression, and pre-disturbance tree and brush thinning to reduce fire risk or beetle-induced tree mortality (EII *et al.* 2012, pp. 45–67). The petitioners provide literature addressing the species in the boreal range, the Black Hills, the eastern Oregon Cascades, and the Sierra Nevada Range to support the identified threats (Hutto 1995, pp. 1053–1054; Dixon and Saab 2000, p. 15; Hoyt and Hannon 2002, p. 1887; Vierling *et al.* 2008, pp. 426–427; Saab *et al.* 2007, p. 106; Hutto 2008, pp. 1931–1833; Hanson and North 2008, pp. 779–781; Bonnot *et al.* 2009, p. 227). References cited by the petitioners indicate that current management prescriptions in black-backed woodpecker habitat are likely insufficient to protect and prevent further declines of the species (Hutto 1995, p. 1054; Hanson and North 2008, pp. 780–781; Cahall and Hayes 2009, pp. 1125–1127). The petitioners also state that future climate change may further reduce habitat availability; this potential threat is evaluated in Factor E, below.

*Salvage Logging*—The petitioners state that salvage logging of fire- and beetle-

killed trees is likely the most important and most well-documented threat to the persistence of black-backed woodpecker throughout its range. They add that every study conducted that has examined the effects of salvage logging on black-backed woodpeckers has documented significant declines in abundance, nest densities, and presence of foraging birds in salvage-logged forests, compared to unlogged post-disturbance forests (Elliott *et al.* 2012, pp. 57–60).

The petitioners provide a variety of study results showing that post-fire salvage logging results in lower black-backed woodpecker nest densities, lower foraging presence, and lower overall abundance, compared to levels of the same activities in unlogged burned areas (Hutto 1995, pp. 1047–1050; Caton 1996, pp. 96–111; Murphy and Lehnhausen 1998, pp. 1359, 1362–1368; Saab and Dudley 1998, pp. 6, 11; Hutto and Gallo 2006, p. 825; Saab *et al.* 2007, pp. 100–101; Cahall and Hayes 2009, pp. 1125–1127).

The petitioners provide information to indicate that salvage logging affects foraging habitat by removing snags that support wood-boring beetle larvae, and that management prescriptions leave insufficient numbers of snags to support adequate foraging resources (see Hanson and North 2008, pp. 780–781). Information provided by the petitioners indicates that black-backed woodpeckers were absent or nearly absent from salvage-logged areas of burned forests in California (Hanson and North 2008, pp. 779–781; Siegel *et al.* 2012 [see Fig. 10]). The petitioners present a study indicating that, in the eastern Oregon Cascades, salvage logging reduces abundance of black-



backed woodpeckers (Cahall and Hayes 2009, pp. 1125–1127). Similarly, the petitioners cite a study in which the authors found that in areas with high tree mortality due to beetle infestations in the eastern Oregon Cascades, 99 percent of all foraging observations were in beetle-killed forests that had not been salvage-logged, and that the black-backed woodpecker was nearly absent from areas subject to post-disturbance salvage logging (Goggans *et al.* 1989, Table 8, p. 26). The petitioners provide a number of U.S. Forest Service (USFS) documents that describe recent and planned salvage logging operations in recently burned or beetle-killed areas on national forests in California and Oregon (USDA 2005c, entire; USDA 2005d, entire; USDA 2005e, entire; USDA 2006a, entire; USDA 2009a, entire; USDA 2009b, entire; USDA 2010a, entire; EII *et al.* 2012, pp. 68–95).

For the Black Hills, the petitioners provide several studies that measure forest stand characteristics associated with nesting in recently burned habitat and in beetle-killed forests, but do not address effects of salvage logging itself, although they present study results that suggest that reductions in snags result in reduced densities of the species (Vierling *et al.* 2008, pp. 426, 427; Bonnot *et al.* 2008, p. 455, 456; Bonnot *et al.* 2009, pp. 224, 225).

The petitioners provide information to indicate that fires have occurred regularly and within the relatively recent past within the Black Hills (Shinneman and Baker 1997, pp. 1279-1281; Piva *et al.* 2005, p. 6; Bonnot *et al.* 2009, pp. 220, 221). The petitioners indicate that snag retention guidelines in the Black Hills National Forest Plan are not

adequate to maintain a viable population of the black-backed woodpecker, based on research addressing effects of salvage logging on the species (Hutto 2006, pp. 988–989; Bonnot *et al.* 2009, p. 226; Hutto and Hanson 2009, unpaginated).

*Changed Fire Regime Due to Fire Suppression*—The petitioners state that black-backed woodpecker habitat is created by high-intensity fire and large-scale insect outbreaks that kill most of the trees across large areas of dense mature forest (EII *et al.* 2012, p. 69). They provide information to indicate that fire- and beetle-killed trees generally only support beetle larvae for about 5 years after the disturbance (Dixon and Saab 2000, pp. 4–14). The petitioners state that widespread fire suppression is a threat to the black-backed woodpecker because it has reduced fire frequency and intensity, and the annual extent of area burned. The petitioners present information on historical and current fire acreage, frequency, and severity from California and Oregon. They also provide references to support the information in the petition, and assert that historically there were 3 to 4 times more high-intensity fires within the Oregon and California range of the black-backed woodpecker than there are currently (EII *et al.* 2012, pp. 60–63).

The petitioners present literature to indicate that in the eastern Oregon Cascades and California, the amount of area burned by fire per year has decreased substantially, and the fire return interval has increased substantially since pre-European conditions, largely as a result of fire suppression (Bekker and Taylor 2001, pp. 23–26; Stephens *et al.* 2007, pp. 210–213; Hanson *et al.* 2009, pp. 1316–1317; Baker 2012, pp. 15–22). The petitioners estimate that current high-intensity fire rotation intervals in the Sierra

Nevada Range, based on fires from 2002 to 2011, is over 700 years, compared to some studies from the Sierra Nevada that show a high-intensity fire rotation interval historically of 150–350 years (high-intensity fire rotation refers to how often a site would, on average, experience high-intensity fire) (EII *et al.* 2012, p. 62).

The petitioners conclude that the reduction in fire frequency and intensity is the result of fire suppression activities (EII *et al.* 2012, pp. 60–67), and this large decline in high-intensity fires since the 19<sup>th</sup> century likely can be expected to correspond with a similar decline in black-backed woodpecker populations within their range in Oregon and California (EII *et al.* 2012, pp. 62–65).

For the Black Hills, the petitioners assert that at the turn of the last century, large expanses of forests experiencing high beetle-induced tree mortality and high-intensity fire were a natural part of the ecology in the area that is now the Black Hills National Forest (Shinneman and Baker 1997, p. 1284; Bonnot *et al.* 2009, p. 220; EII *et al.* 2012, p. 65), with high-intensity fire typically occurring in intervals of less than 100 years in a given area (Shinneman and Baker 1997, pp. 1279–1281). The petitioners state that since 1980, 225,554 acres (91,278 ha) have burned in the Black Hills National Forest, and this represents a rotation interval for all fire intensities of about 90–100 years. The petitioners state, however, that a majority of the fire acreage has sustained only low-intensity and moderate-intensity fires, and they conclude that the high-intensity fire rotation interval is currently at least 300 years, which indicates that suitable burned habitat for black-backed woodpeckers has been greatly reduced (EII *et al.* 2012, p. 65).

*Forest Thinning*—The petitioners propose that forest thinning also not only prevents higher-intensity fire (or high levels of beetle-caused tree mortality) from occurring in the first place, but also greatly reduces or eliminates post-fire habitat suitability, even if a thinned area does burn (EII *et al.* 2012, pp. 65–66). They indicate that in addition to the extent to which the thinning reduces fire intensity (by reducing understory trees, and by removing mature trees, thereby increasing spacing between tree crowns) or significant beetle-caused tree mortality (by removing small and mature trees to reduce competition between trees, thereby reducing tree mortality), thinning also affects habitat by reducing pre-disturbance tree densities and canopy cover, forest stand characteristics that are correlated with higher post-disturbance occupancy rates and nest densities for the black-backed woodpecker (Russell *et al.* 2007, pp. 2603–2608; Vierling *et al.* 2008, pp. 424–426; Bonnot *et al.* 2009, p. 226; Saab *et al.* 2009, pp. 156–158; EII *et al.* 2012, pp. 65–67).

The petitioners describe several major forest thinning projects in the Oregon Cascades that they think threaten habitat of the black-backed woodpecker. These projects are described as targeting the few remaining dense, older forests on national forest lands, specifically to prevent moderate- and high-intensity fire and to reduce the potential for any significant tree mortality from beetles, which results in reducing suitable habitat for the black-backed woodpecker (EII *et al.* 2012, pp. 91–95). The petitioners provide numerous environmental and forest planning documents that provide information on planned forest thinning proposals within the range of the Oregon

Cascades-California population (USDA 2001, pp. 34–54; USDA 2006b, entire; USDA 2007, entire; USDA 2009a, entire; USDA 2010b, entire; USDA 2011a, entire; USDA 2011b, entire; USDA 2012a, entire; USDA 2012b, entire).

The petitioners state that in the Black Hills, the scale and intensity of two proposed logging projects, the Mountain Pine Beetle Response Program and the Vestal Project, will largely eliminate suitable black-backed woodpecker habitat in the Black Hills National Forest (EII *et al.* 2012, pp. 96–98; see also Bonnot *et al.* 2009, pp. 220, 221). The petitioners provide information that the Black Hills National Forest proposes to remove insect-infested trees, as well as thin trees to reduce future beetle outbreaks and to reduce fire frequency and severity.

#### Evaluation of Information Provided in the Petition and Available in Service Files

A review of the information provided by the petitioners supports the petitioners' description of the black-backed woodpecker as a habitat specialist that is most often associated with dense conifer stands that have been killed by high-intensity fire or large-scale insect outbreaks within the previous 5 years. Information provided by the petitioners also supports descriptions of declines in fire frequency and fire severity in Oregon, California, and the Black Hills since the 19<sup>th</sup> century. The petitioners have presented numerous studies that indicate a negative correlation between black-backed woodpecker nesting, foraging, and abundance, and reduced abundance of standing dead trees. The petitioners have provided a variety of USFS documents that indicate that

salvage logging, fire suppression, and thinning activities are either planned or being implemented on multiple forests within the respective ranges of the populations. As noted above, the petitioners have provided studies from Oregon, California, and the Black Hills that support their arguments that the Oregon Cascades-California and Black Hills populations are negatively affected by these activities. The scope of these activities suggests that they have the potential to affect a large portion of the range of each of the two populations.

In summary, we conclude that the information provided in the petition or in our files present substantial scientific or commercial information indicating that the petitioned action may be warranted for the Oregon Cascades-California and Black Hills populations of the black-backed woodpecker due to the present or threatened destruction, modification, or curtailment of the populations' habitat or range as a result of salvage logging, tree thinning, and fire suppression activities throughout their respective ranges.

*B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.*

Information Provided in the Petition

The petitioners state that there are no specific regulations that prohibit the hunting or killing of the black-backed woodpecker in Oregon, in California, or in the Black Hills, and that there are no available records of the numbers of black-backed

woodpeckers that are killed annually through hunting, research, or for other reasons (EII *et al.* 2012, p. 67); however, the petitioners provide no information to indicate that overutilization for commercial, recreational, scientific, or educational purposes threatens either the Oregon Cascades-California or the Black Hills population of the black-backed woodpecker.

#### Evaluation of Information Provided in the Petition and Available in Service Files

The materials provided in the petition or available in our files do not indicate that the black-backed woodpecker is hunted. Take is prohibited under the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703–712). Further, the petitioners did not provide, nor do we have in our files, any information on overutilization for scientific research, education, or any other purposes. We find that the information provided in the petition and available in our files does not present substantial scientific or commercial information indicating that the petitioned action may be warranted due to overutilization of the Oregon Cascades-California or Black Hills populations for commercial, recreational, scientific, or educational purposes. We are requesting additional information regarding overutilization of the Oregon Cascades-California and Black Hills populations, and will further evaluate Factor B during the status review for each population and present our findings in the subsequent 12-month finding on this petition.

#### *C. Disease or Predation.*

## Information Provided in the Petition

The petitioners state that predation was a leading cause of nest failures in the Black Hills (EII *et al.* 2012, p. 67), citing two studies that documented nest failure rates in post-disturbance habitat there (Bonnot *et al.* 2008, p. 453; Vierling *et al.* 2008, pp. 424–425). The petitioners also note that predation rates in newly burned areas tend to increase over time as burned areas recover. They provided limited additional information on the potential for predation by raptors (Dixon and Saab 2000, p. 11; EII *et al.* 2012, pp. 67–68). The petitioners also identified interspecific interactions with other avian species as a threat (EII *et al.* 2012, p. 68), which we address under Factor E.

The petitioners provide information to indicate that mortality due to nematode parasitism may be a potential threat (Siegel *et al.* 2012b, p. 421), but further note that more information is needed to determine the extent to which nematode parasitism occurs in black-backed woodpeckers, and the extent to which black-backed woodpeckers may be vulnerable to parasites (EII *et al.* 2012, p. 68). One bird was reported to have been lost due to nematode parasitism in the Oregon Cascades-California population (Siegel *et al.* 2012b, pp. 421–424), but no further information was presented regarding the incidence of disease or parasites in either population.

## Evaluation of Information Provided in the Petition and Available in Service Files



Review of the information presented by the petitioners suggests that predation and parasitism may have individual-level effects, but no information was provided on what effects, if any, predation and parasitism have at the population level. We found no information in the petition or information readily available in our files to indicate that disease or predation (or parasitism) is negatively impacting the status of the Oregon Cascades-California or the Black Hills populations of the black-backed woodpecker. Therefore, we do not find that there is substantial information to indicate that the Oregon Cascades-California or the Black Hills populations of the black-backed woodpecker may warrant listing due to disease or predation. However, we are requesting any additional information available on the role that predation and parasitism may have on the status of the Oregon Cascades-California and Black Hills populations, and will further evaluate this factor during our status review for each population.

*D. The Inadequacy of Existing Regulatory Mechanisms.*

Information Provided in the Petition

The petitioners state that existing regulatory mechanisms are inadequate to protect the black-backed woodpecker on Federal and private lands in the Oregon Cascades-California and Black Hills populations. As discussed under Factor A, the petitioners explain that the black-backed woodpecker is a habitat specialist that is vulnerable to the impacts of salvage logging, as well as forest thinning and fire suppression activities, which are implemented to reduce occurrence of the high-intensity

fire and beetle infestations that create the habitat upon which the species depends. The petitioners provide information on Federal regulatory mechanisms that address forest management, including the National Forest Management Act (NFMA; 16 U.S.C. 1600 *et seq.*; April 9, 2012 at 77 FR 21162), the 2012 National Forest System Land Management Planning Rule (2012 planning rule), the Sierra Nevada Forest Plan Amendment (SNFPA) and its 2004 and 2010 amendments, the Northwest Forest Plan (NWFP), several national forest land and resource management plans (LRMPs) in Oregon, and the Black Hills National Forest LRMP Amendment. They also provide information on State regulatory mechanisms, including the California Forest Practices Rule and the Oregon Forest Practices Act (EII *et al.* 2012, pp. 68–98). They indicate that there are no regulations that prohibit hunting or killing the species in Oregon, California, and the Black Hills (EII *et al.* 2012, pp. 67).

The petitioners explain that the 2012 planning rule may threaten the black-backed woodpecker, because the rule eliminates the 1982 NFMA planning rule requirement that the USFS maintain viable populations of all native vertebrate species where those species are found on national forest lands (EII *et al.* 2012, pp. 68–71; <http://www.fs.usda.gov/planningrule>). The petitioners assert that these changes will affect the vast majority of the habitat in the range of each population, because the NFMA governs forest management activities on all national forests, including those in Oregon, California, and the Black Hills. They state that national forests support over half of the habitat for the Oregon Cascades-California population, and 98 percent of the habitat for the Black Hills population (EII *et al.* 2012, p. 69).

The petitioners assert that the 2004 and 2010 amendments to the 2001 SNFPA have eliminated or weakened standards and guidelines so that land and resource management plans (LRMPs) for national forests in the Sierra Nevada eco-region no longer require national forests to retain black-backed woodpecker habitat (USDA 2001, Appendix A, Standards and Guidelines; USDA 2004, pp. 1–72; USDA 2010c, pp. 1–56; EII *et al.* 2012, pp. 71–75). Similarly, the petitioners list standards and guidelines from the 1994 NWFP and from national forests in the eastern Cascades, concluding that standards and guidelines for snag retention, fire suppression, salvage logging, and clear-cutting are not adequate to conserve the species (EII *et al.* 2012, pp. 82–89). The petitioners further assert that the standards provided by the California Forest Practices Rule and the Oregon Forest Practices Act, which govern forest management on private lands in California and Oregon, respectively, are also inadequate to protect black-backed woodpecker habitat, because they do not provide for adequate snag retention (EII *et al.* 2012, pp. 75–77, 89–91).

#### Evaluation of Information Provided in the Petition and Available in Service Files

*Federal Regulations*—Information in our files documents that the Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703–712), (which prohibits hunting, taking, capturing, or killing, or attempting to do so, any migratory bird, part, nest, or eggs) provides protection for the black-backed woodpecker, including the Oregon Cascades-California and Black Hills populations. The black-backed woodpecker is

included under the MBTA based on its inclusion in the 1916 convention between the United States and Canada, which prohibits hunting insectivorous birds (USFWS Digest of Federal Resource Laws, <http://www.fws.gov/laws/lawsdigest/treaties.htm>).

Information in our files also documents that the USFS published a final rule for the 2012 planning rule (77 FR 21162, April 9, 2012), which revises land management planning regulations for national forests. The planning rule provides new regulations to guide the development, amendment, and revision of management plans for all Forest System lands. These revised regulations, which became effective on May 9, 2012, replace the 1982 planning rule. The 1982 planning rule provided for the maintenance of viable populations of species, without providing for the discretion of regional foresters. The 2012 planning rule requires that the USFS maintain viable populations of species of conservation concern at the discretion of regional foresters. As individual forest plans are revised, the changed viability language in the 2012 planning rule might thereby affect viability-related guidance for the black-backed woodpecker on those national forests.

The petitioners provide a substantial number of regional, national forest, and project-specific planning documents that provide regulatory mechanisms that may apply to the black-backed woodpecker. Regional planning documents, such as the Sierra Nevada Forest Plan Amendment (SNFPA), amend existing LRMPs by establishing desired management direction and goals; land allocations; desired future conditions; standards and guidelines; and inventory, monitoring, and adaptive management

strategies (USDA 2004, p. 15). The SNFPA provides management objectives for reducing fire intensity and acres burned, and reducing the risk of insect mortality by managing stand density. It provides standards and guidelines for canopy cover and snag retention (USDA 2004, pp. 40–51). Forest planning documents for national forests in the Oregon Cascades and Sierra Nevada Range that were provided by the petitioners establish the black-backed woodpecker as a management indicator species (USDA 2005e, p. 3-201) that is addressed in numerous plans to salvage fire-killed trees or reduce fuels (USDA 2005e, pp. EX 1–EX-12; USDA 2006a, pp. 1–3; USDA 2007, pp. 153, 187).

The petitioners provided an internet link to Black Hills National Forest planning documents. The Black Hills National Forest Land and Resource Management Plan (LRMP) lists the black-backed woodpecker as a management indicator species (USDA 2005a, pp. III-238–III-247). The 2005 Black Hills LRMP promotes a reduction of forest density in many areas, both to reduce the incidence of high-intensity wildfires and to reduce the likelihood of outbreaks of bark beetles (USDA 2005b pp. ROD 1–3).

Information provided by the petitioners provides recent research-driven concerns that salvage logging and snag retention guidelines may be inadequate, although newer guidelines that are appropriate for snag-dependent species exist (Hutto 2006, pp. 987–990; Hutto and Hanson 2009, unpaginated). Study results from the Sierra Nevada indicate that current USFS salvage prescriptions there do not provide for sufficient snag retention and may adversely impact foraging for the species (Hanson 2007, p. 12).

Likewise, in the Black Hills, Bonnot *et al.* (2009, pp. 220, 226) note that regulation of insect populations via salvage logging will reduce key food resources for the black-backed woodpecker and that snag retention guidelines for salvage logging may need to be revisited.

*State Regulations*—Information in our files indicates that California Forest Practices Rules generally provide protections for wildlife during timber harvest through such measures as snag retention, although the rules permit immediate harvest of fire-killed or damaged timber, or insect-infester timber upon application through an emergency notice (Cal Pub. Res. Code 4592; 14 CCR 919, 919.1, 939.1, 959.1). Information provided by the petitioners indicates that the Oregon Forest Practices Act provides for retention of two snags per acre (Oregon Forest Practices Act 527.676).

The petitioners have provided a substantial literature of planning documents for national forests comprising the majority of the populations' ranges. We will carefully evaluate all information regarding the adequacy of existing regulatory mechanisms, and make a determination on whether this factor may pose a threat to the Oregon Cascades-California or Black Hills populations. We will make this determination in the 12-month finding on this petition.

*E. Other Natural or Manmade Factors Affecting Its Continued Existence.*

Information Provided in the Petition

The petitioners indicate that small population size, interspecific competitive interactions, and climate change may also threaten the Oregon Cascades-California and Black Hills populations of the black-backed woodpecker. The petitioners include the ephemeral nature of black-backed woodpecker habitat as a threat under this factor; however, the nature of the woodpecker's association with habitats having short duration is discussed in the context of loss of that habitat under Factor A and will not be discussed further here.

#### Evaluation of Information Provided in the Petition and Available in Service Files

The petitioners state that within the black-backed woodpecker's range in Oregon and California, less than 2 percent of the area is existing suitable habitat for the species, and that less than 1 percent of that area supports current moderate-to-high-quality habitat (areas with less than 5 years since disturbance), providing maps to demonstrate the fragmented nature of likely habitat (EII *et al.* 2012, pp. 47–56, 69–70). They also indicate that in the Black Hills, such existing suitable habitat is likely only 5 to 8 percent of the area within the population's range (EII *et al.* 2012, p. 70). Given estimates of current suitable habitat, the petitioners estimate that approximately 700 to 1,000 pairs of black-backed woodpeckers occur in the Oregon Cascades-California population and approximately 411 pairs occur in the Black Hills population (EII *et al.* 2012, p. 43). Their estimates are based on information on black-backed woodpecker home range size, utilization of available habitat, and nest-density estimates, along with estimates of the

amount of current acreage of burned, beetle-killed, and unburned habitat in the range of each population (Dudley and Saab 2007, pp. 597–598; Siegel *et al.* 2008, pp. 9–15; Siegel *et al.* 2010, pp. 19–46; EII *et al.* 2012, pp. 42–45).

The petitioners state that both populations are inherently vulnerable to extinction because the two population sizes are below the threshold at which there is a significant risk of extinction in the near future, based on modeled minimum viable populations for several hundred species (Reed *et al.* 2003, pp. 23–34; Traill *et al.* 2007, pp. 163–165; Traill *et al.* 2010, pp. 30–33; EII *et al.* 2012, pp. 98–100). Information provided by the petitioners indicates that, based on analyses for 48 bird species, minimum viable populations for bird species range between 2,544 and 5,244 individuals (Traill *et al.* 2007, pp. 163–165).

As noted under Population Status and Trend above, black-backed woodpeckers within the Sierra Nevada Range are detected in small numbers, but not frequently enough for regional population estimates (Siegel *et al.* 2008, p. 4). However, the estimate given by the petitioners for the Oregon Cascades-California population is roughly consistent with preliminary breeding pair estimates of 470, 538, or 1,341 given by Siegel *et al.* (2010, pp. 1–3, 44–45) for occupied habitat on the 10 national forests in the Sierra Nevada Range, although it may underestimate the number for the population as a whole.

In the Black Hills, the South Dakota Department of Game, Fish, and Parks has



the black-backed woodpecker listed as locally rare and vulnerable to extinction (see Bonnot *et al.* 2008, p. 450). In addition, Pierson *et al.* (2010, p. 12) find that the population is likely quite small based on a small genetically effective population size (see Traill *et al.* 2010, p. 30), and the relatively small area of the Black Hills, coupled with the bird's occupancy of large territories. The final environmental impact statement for the revised Black Hills National Forest Land and Resource Management Plan indicates that a baseline population study by Mohren in 2000 provided an estimate of approximately 1,200 black-backed woodpeckers in the Black Hills in that year (USDA 2005a, p. III-241). Several large burns and beetle outbreaks occurred between 2000 and 2005, which led to increased densities, although no forest-wide estimates are given. Populations were thought to be doing well at the time of the plan, and were expected to decline to numbers similar to those in 2002 during periods of low fire and insect activity (USDA 2005a, pp. III-241–III-245).

The petitioners present information indicating that competitive interactions with other cavity-nesting birds sometimes cause the displacement of black-backed woodpeckers as a result of aggressive behavior by the other species (Villard and Benninger 1993, p. 75; Dixon and Saab 2000, pp. 10–11; EII *et al.* 2012, p. 68). However, the petitioners provide no further information, nor do we have information in our files, to indicate that such competitive interactions negatively affect reproduction and recruitment, or have population-level effects on either the Oregon Cascades-California or the Black Hills populations.

The petitioners also briefly address climate change, noting that with climate

change the incidence of wildfire will likely decrease at higher elevations in the forests of the Sierra Nevada and the eastern Cascades, rather than increase (EII *et al.* 2012, pp. 101–102). In part this decrease in fire activity is expected to be due to vegetation changes that will reduce the abundance of fire-prone vegetation and lead to reduced fire activity in the forests of the Sierra Nevada and the eastern Cascades (EII *et al.* 2012, p. 101).

Information presented by the petitioners appears to conflict with a study of wildfire in the western United States available in our files, which documents a positive correlation between wildfire frequency and regional spring and summer temperature, and finds that the average number of large wildfires between 1987 and 2003 was four times the average between 1970 and 1986, with 60 percent of that increase occurring in the Rocky Mountains, and 18 percent occurring in the Sierra Nevada, Cascades, and coast ranges of Oregon and California (Westerling *et al.* 2006, p. 941; see also Spracklen *et al.* 2009, p. 14). Other literature provided by the petitioners suggests that over the period since 1880, high-severity fire intervals have not become shorter in the last three decades than they were historically (Williams and Baker 2012, p. 8). However, predictions by Spracklen *et al.* (2009, p. 14) also indicate that in western forests area burned will increase by 54 percent by 2055, as compared to the 10-year period ending in 2005. The largest increases in area burned are projected for the Pacific Northwest (78 percent) and Rocky Mountain (175 percent) eco-regions, while little change is predicted for the eastern Rocky Mountains and Great Plains region because there increases in precipitation are expected to compensate for increases in temperature

(Spracklen *et al.* 2009, p. 14).

Information in our files on climate change modeling for the Sierra Nevada eco-region also suggests that climate change is likely to favor larger and more intense fires in a number of vegetation types in the Sierra Nevada Range, but that over the long term these conditions may lead to vegetation changes that support less severe fire regimes, with projected threats to wildlife from loss of conifer-dominated vegetation (red fir, lodgepole pine, and subalpine conifer), especially at the higher elevations (PRBO Conservation Science 2011, pp. 24, 25). Global climate change models suggest that fires may decrease in these forests before the end of this century, and the authors caution that current perceived increases in fire throughout many parts of western North America may be too simplistic (Krawchuk *et al.* 2009, pp. 7–9). Modeling of vegetation response to climate change indicates that total area burned in all of California may increase from 9 to 15 percent above the historic norm before the end of the century. However, while annual biomass consumption may initially be greater, it will be at or below the historic norm by the end of the century, and both conifer forest, and in the Sierra Nevada Range, alpine and subalpine forest cover, will likely decline significantly by 2070–2099, while grassland and mixed conifer will increase (Lenihan *et al.* 2008, pp. S220–S227; see also PRBO Conservation Science 2011, p. 25).

In summary, we conclude that the information provided in the petition and available in our files provides substantial scientific or commercial information indicating that the petitioned action may be warranted due to small population sizes for the Oregon

Cascades-California and Black Hills populations, and due to climate change for the Oregon Cascades-California population. However, neither the petition nor information in our files presents information on the effect of interspecific competitive interactions on the Oregon Cascades-California and Black Hills populations, or on the effect of climate change on the Black Hills population. The petitioners did not mention the Black Hills when discussing climate change, and we do not have literature in our files that addresses climate change effects on black-backed woodpecker habitat in the Black Hills. Spracklen *et al.* (2009, p. 14) suggest that climate change may not result in increased wildfires within that region. We request any available information on these issues and will thoroughly evaluate this information during our status review.

## **Finding**

On the basis of our determination under section 4(b)(3)(A) of the Act, we find that information in the petition and readily available in our files presents substantial scientific or commercial information indicating that listing the Oregon Cascades-California population and the Black Hills population of the black-backed woodpecker may be warranted. This finding is based on information provided in the petition, in addition to information readily available in our files, on the possible loss of black-backed woodpecker habitat due to salvage logging, fire suppression, and forest thinning, and on the possible negative population effects due to small population size and climate change. We will initiate a status review to determine whether listing each population as endangered or threatened under the Act is warranted.

The “substantial information” standard for a 90-day finding, under section 4(b)(3)(A) of the Act and 50 CFR 424.14(b) of our regulations, differs from the Act’s “best scientific and commercial data” standard that applies to a status review to determine whether a petitioned action is warranted. A 90-day finding does not constitute a status review under the Act. We will report our finding on whether a petitioned action is warranted in a 12-month finding, after we have completed a thorough status review of the species. The status review is conducted following a substantial 90-day finding. Because the Act’s standards for 90-day and 12-month findings are different, a substantial 90-day finding does not mean that the 12-month finding will result in a warranted finding.

### **References Cited**

A complete list of references cited is available on the Internet at <http://www.regulations.gov> and upon request from the Sacramento Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

### **Authors**

The primary authors of this notice are the staff members of the Sacramento Fish and Wildlife Office.

**Authority**

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Date: March 26, 2013

David Cottingham

Acting Director, U.S. Fish and Wildlife Service

Billing Code 4310-55-P

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